

Big Money in Dates---How Uncle Sam Is Raising Tropical Fruits On Southwestern Deserts---Twenty Million Pounds of Dates Last Year

The Palm Gardens of Arizona.

The Date Trees of the Sahara and the Persian Gulf—How the Fruit Was Introduced—Breeding New Varieties—All About the Fig and the Blastophagus, a Little Insect Whose Eggs Are Worth Millions—The Maslin Fig Orchard.

BY FRANK G. CARPENTER.

Washington, D. C., August 19.—Uncle Sam raised enough dates last year to give every man, woman and child in the country a handful and leave some to spare. The amount was 26,000,000 pounds, and the fruit was as fine as that which comes from the oases of the Sahara. Much of it was raised about the Salton Sea, in Southern California, where it is so hot that the hens are said to lay boiled eggs, and where, as is alleged by others, there is only a sheet of brown paper between it and the lower regions. Other dates were grown in the Rio Grande Valley of Texas and others on the scorching sands of Southern Arizona. The Arabs say that the date palm must have its feet in the water and its head in the burning sun.

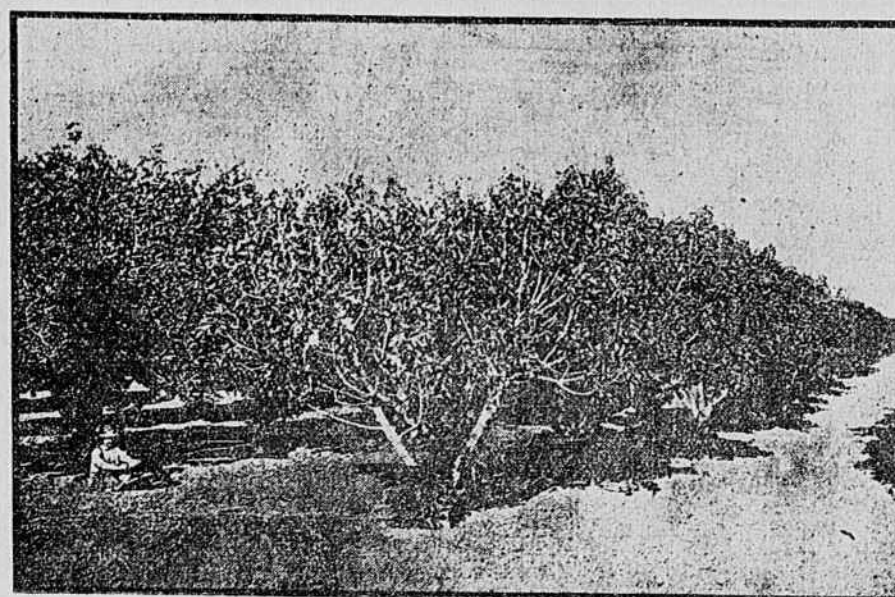
Those are the conditions in many parts of our great Southwest. The sun is white hot, but by irrigation the palms are kept moist, and they produce this delicious fruit, which contains more than any other on earth. These potential date regions are very extensive. I have been inquiring about them of the Agricultural Department, and Walter T. Swingle, who has special charge of this industry, tells me that we have several million acres that will raise excellent dates, and that we could, if we would, supply all the dates that are eaten by man.

The Dates of the Sahara.
But before I give you my talk with Professor Swingle, let me take you through some of the date countries of the world. Many of our dates come from the Sahara, that great stretch of desert which runs across North Africa, covering almost as much land as the whole United States. I have visited a number of its oases and have picked dates from the trees.

The oases are garden spots in this vast region of sand and rock. There are 50,000 square miles of them, a territory equal to twice that of Ohio, Kentucky and Virginia, and upon all of them the chief crop is dates. Each oasis is measured, not by its area, but by the number of date trees it contains, and the French of Morocco and Algeria tax the people according to the size of their orchards.

Dates have the same place in the Sahara that our wheat has in the North and cotton in the South. It is the money crop and the chief support of the people. It is the date that loads the caravans of camels that move to and fro over the desert. It might also be called the bread of the Sahara, for in some places the Arabs eat but little else, the fruit being fed to the camels and even to the dogs.

This date stock feed, however, is different from the fruit we have in America. The oases have as many kinds of dates as we have apples. There are more than 100 different date palms



SMYRNA FIG

ORCHARD AT FRESNO.



James P. Reed, a California date grower, and tree. This is a three-year-old seedling.

In the Sahara, and many others in the Persian Gulf region. The dates we eat are full of sugar and are so soft and juicy that they must be drained before being packed. The favorite date of the Sahara is a dry date, which can be kept a long time and which is sometimes pulverized and so cooked. Another date is deliciously sweet. It is of a yellow color and is as plump as a prune before it is pressed.

Persian Gulf Dates.
One of the most interesting date regions of the world is about the Persian Gulf in the valley of the Euphrates, not far from where the Tower of Babel once stood, and near the supposed location of the Garden of Eden. I have taken about this country with Mr. David Fairchild, the agricultural explorer, who has gone around the world, like a watch spring, scratching its surface for new plants and trees to introduce into the United States. He made a special trip to study the date groves of the Persian Gulf, which are still furnishing most of that fruit that comes to America. Mr. Fairchild says there are something like 20,000,000 date palms in that territory, and that an unbroken date forest runs along the Shatt-el-Arab, which forms the mouth of the Euphrates and Tigris Rivers, for a distance of over seventy miles. That mighty date grove is several miles wide, and it contains altogether about 5,000,000 trees. It is irrigated by the river, the tides backing the fresh water into the canals and giving the roots of each palm a bath twice a day.

The Persian dates are of hundreds of varieties, and Mr. Fairchild heard of some that are said to be seedless. In this respect corresponding perhaps to the navel orange, which is now so common all over our country.

Mr. Fairchild sent shoots of several varieties of dates to the United States, and has thus been instrumental in giving us some of the first trees planted in our arid West. He also forwarded date trees from the Fayoum, in



Messrs. Fairchild and Swingle inspecting seedlings five days after planting. The plants were brought in from Australia. Mr. Fairchild in front, Mr. Swingle in rear, holding pot.

Bringing Dates to America.
The man who has done more for date culture in the United States than any other, however, Walter T. Swingle, who is a botanist and plant breeder, ranks as high as Luther Burbank, the so-called wizard of California. Mr. Swingle has bred new dates, new figs and new citrus fruits, including oranges which can be grown as far North as central Georgia. He has been largely instrumental in introducing the date and the fig into our country, and has also given us the pistachio and other valuable plants of the Mediterranean region. He has been connected with the Department of Agriculture for more than twenty years, and became interested in the introduction of dates and figs during his stay at Naples, where he went to study tropical agriculture about a decade or so ago. He then traveled through Asia Minor and crossed over into Africa, going down into the Sahara. Prior to his visit to the date regions there some seedling date trees had been grown in California and Arizona, and there had been attempts by the department to import shoots of suckers from the date trees of Africa.

The chief way of starting a date grove in the Sahara is to take up the suckers, which sprout out from about the trunk of the palm, and plant them. The method of shipping them to the United States was to set them in tubs near the trees from which they were taken and to allow them to grow for one year. At the end of that time the plant in the tub was sent to New York and thence to the West. This method was costly. The steamboats did not like to handle the tubs, and they charged freight at the rate of one ton per tub. The expense was almost prohibitive.

Mr. Swingle conceived the idea of sending the shoots fresh from the tree. He sent to Paris for a pair of a special kind of moss, and with this, after it had been well wet, he wrapped the end of the suckers. He then tied each up in straw and packed them in ordinary shoe boxes, which he was able to ship at the regular freight rates. It was found that the shoots arrived in California in excellent condition. They were transplanted in the date gardens there and rapidly grew.

Where Our Date Farms Are.
During his second visit to Algeria, Mr. Swingle made one shipment of over four hundred of these suckers, three-fourths of which became trees, and since then we have had other importations made the same way. Some of the suckers were set out at Tempe, Arizona, not far from Phoenix. Theodore Roosevelt while President feasted on dates from those trees and thousands of pounds were harvested from them this year. Others of the suckers went to California, and some have been sent to an extensive date region which is now being tested near Laredo, Texas. Not a few so important are growing in the Imperial Valley of Southern California. Mr. Swingle tells me that dates may be grown in California as far north as Sacramento, but that the finest varieties will succeed best about Yuma, Ari-

zona once in bearing prove enormously profitable. The trees begin to fruit in three years, and the dates sell at retail for from 10 to 50 cents a pound, according to quality. The average yield of a Deglet Noor palm is put at from 85 to 150 pounds, and an estimate of \$150 profit per acre a year is not out of the way. Even counting only 75 pounds to a tree, an acre should yield 4,000 or 5,000 pounds a year.

There is no doubt but that the demand for dates can be greatly increased. The California Fruit Growers' Association has by advertising and marketing added 33 per cent. to the demand for oranges in Iowa, and it is spending \$100,000 this year to increase the sale of that fruit in Illinois, Wisconsin and other States. The same may be done with the date. This fruit is the great desert food of France, and a box of fine dates forms the chief Christmas present there. The Agricultural Department believes that the time will come when dates will be consumed by our people much as oranges are now, and they tell me that we have the soil and climate which can supply any demand.

Breeding Fine Dates.
Mr. Swingle expects that the United States will some day produce a date superior to any now grown. The Arabs have tried to perpetuate the old varieties, using the shoot or suckers of the date trees rather than seedlings for planting new groves. This has been the same in Persia and elsewhere. It is different in our date gardens of the West. The scientists there are taking the best of the old varieties and breeding new ones. They have hundreds of different kinds, and are producing others each year. The trees are male and female, and Uncle Sam's match makers are marrying the best specimens of each variety with an idea that the children that come from the seeds will have the best qualities of each parent. With this view the Department of Agriculture is sending out thousands of seeds and urging the farmers of those hot, arid regions to set out date gardens. This is comparatively cheap when the trees are grown from the seeds and the date or-

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Our Big Fig Crop.
Another tropical fruit which is now affecting California, Arizona and Texas, as well as other parts of the West, is the Smyrna fig. This fruit can be raised over a great area, and there is no doubt but that we could produce all we consume. Nevertheless, nine-tenths of our figs still come from abroad, and we are importing 4,000,000 pounds every year. California has long realized the money that might be made out of the business, and it has tried again and again to go into it. It did not succeed, however, until Mr. Swingle brought here from Asia Minor the blastophagus and trained it to work in the harness of the horticulturist.

I wonder if you have ever heard of the blastophagus. It is a little insect which looks like a wasp, only much smaller. Its chief job in life is carrying the pollen from the male fig tree to the female fig tree, and thereby fertilizing the fruit. Unless it is fertilized the fruit is not good. It will not stay on the tree and is of no commercial value whatever.

Now the blastophagus is like the boll weevil, in that it will feed upon only one crop. The boll weevil will eat nothing but cotton. The blastophagus can live on nothing but the Smyrna fig. It can be torn only in the capri fig, which is the male variety of the Smyrna fig, and the figs of the male tree are seemingly good for nothing else but to serve as a breeding ground for this insect.

While talking about this matter with Mr. Swingle he drew for me two pictures of the blossoms of the male and female trees. Each is of the shape of a bell, with a narrow mouth, minute flowers being on the inside of the bell. In the male tree the flowers are so short that when the Mme. Blastophagus sticks in her tail and deposits the eggs they are close enough to become a part of the fruit, and they soon hatch therein and crawl forth as wasps like their mother. If one of these capri figs is cut open before it is ripe it will be seen to be full of grains which look much like seeds. These grains are minute galls, each of which contains a tiny insect. When the

insects are ready to bite their way out of the galls the mouth of the capri fig opens and a mass of male flowers is situated below it begin to shed pollen abundantly. As the insects crawl out they get coated with this pollen and carry it to the female flowers which line the young budding figs on the female tree. The dusting of the female flowers with pollen causes the fruit to set and to bear fertile seeds, which give the flavor and make the Smyrna fig so delicious.

Now these flowers about the figs on the female trees are longer than those on the male trees. They are so long that when the wasp puts its tail in and lays its eggs they do not reach to the bottom and the eggs drop up to within an inch or so of the top. The blastophagus lays the eggs on the pollen on the blossoms and fertilizes the fruit. The flowers on the figs of the male tree are shorter, and the eggs reach the fruit and speedily hatch. The work of laying the eggs on the female trees is a deception practiced by nature on the wasps, but it works nevertheless, and such as lay their eggs on the flowers of the male tree are enough to perpetuate the race for the figs of the future.

The people of California knew about this insect and tried to get for a long time before they succeeded. Indeed, our knowledge of it dates far back into antiquity. Herodotus refers to capricorn in some of his writings in the fifth century before Christ, and Aristotle speaks of it in his history of animals. It was well known throughout the Orient, and it has been carried from Asia Minor to Africa, so that the Moors and Algerians raise their figs in this way. In Smyrna, the fig growers cut the male figs containing the insects in halves and string them on wire sticks, and then throw them up into the female trees, and the same is now being done in our fig orchards.

As to the introduction of the insect into California, this was attempted twenty-one years ago, but it was not successful. During the eight or nine years following other attempts were made and failed, and then Professor Swingle, having spent a long time in the study of the insect and its methods of working, sent some capri figs, which were wrapped in tin foil, to California. The wasps came out, but it was not the right time of year for the female blossoms, and another attempt was made in 1903. This was successful, and to make a long story short, the blastophagus began to breed by the millions a year. They are now to be found in the male trees of all the fig orchards, and we are raising fruit that will compete with that of Smyrna in the world's market.

At the Same Time the Smyrna Fig is being bred, and new figs created, the very best figs are being married, and new varieties are coming into being. One of these has a gum drop in its mouth, which seals up the place where the rain is liable to go in and rot the fig. This is known as the Rixford fig. It is a fruit which practically can itself, and therefore may be guaranteed clean, without and within. Another self-sealing variety was discovered three years ago, after two soaking rains had spoiled the figs on the adjoining trees of a different variety. Cutting of these varieties are being distributed to all who will plant three seedling fig trees for every cutting received.

The Maslin Fig Orchard.
One of the great breeding grounds for new figs is the Maslin fig orchard in Placer county, Cal. This is now a government station, being rented to Uncle Sam for a nominal sum by the Southern Pacific Railroad. It contains 130 fig trees which were planted from the seeds of the best imported Smyrna figs by E. W. Maslin, the seeds having been sown almost a quarter of a century ago. Prior to that there had been attempts to raise Smyrna figs in California, but owing to non-capricornification and other reasons they were all unsuccessful. Mr. Maslin thought the Turks were sending us bad seeds, and so he wrote to Thurber & Company, the well-known growers of New York, to ship him a box of their very best Smyrna figs, as he wanted to plant the seeds. They did so, and having bought this plantation he gave up his office and attempted to make money in orcharding. The seeds sprouted and he got 153 trees. Later on he found that his figs would not fruit, and he eventually had to give up his orchard and the estate connected with it.

In the meantime Mr. Swingle tried to buy the orchard for the Bureau of Plant Industry of the United States Department of Agriculture, but the new owner asked an extravagant price, whereupon the land was investigated and was found to lie in the Southern Pacific Railroad, the orchard being on their right of way. The matter was referred to the railroad authorities and they being glad to promote the fruit industry leased the land to the United States government for an indefinite period for \$1 per acre per year.

In that orchard there are now seventy-four male trees and sixty-five female trees. All are twenty years old. From the seedlings have sprung up a dozen valuable new varieties, some of which are unequalled by any that we have imported from the best fig-grow-

ing regions of Asia Minor, North Africa and Europe. In addition the department has several thousand other seedlings produced from the finest varieties of figs and these are being distributed to fig growers in different parts of the West. The result will be that the United States will eventually not only raise all its own figs, but that it will have the best figs that can be produced. (Copyright, 1911, by Frank G. Carpenter.)

Williamsburg Social News.

[Special to The Times-Dispatch.]
Williamsburg, Va., August 19.—Fred R. Savage, cashier of the Bank of Williamsburg, left today for Berlin, Md., to spend his vacation with his parents. John Handley of Norfolk has been here this week visiting his mother, Mrs. Julia Handley.

Mr. and Mrs. Hodges M. Christian, of Hampton, who have been spending their vacation here with relatives, will return home the first of next week.

The Rev. and Mrs. E. Ruffin Jones, Dr. Van F. Garrett and two children, and H. D. Cole left the first of the week for New York City, Boston, Albany and other points, to be away several days.

Miss Beulah Brooks left Thursday for Norfolk, whence she will go by steamer to New York on route to Newport to be the guest of Mrs. A. M. Miles. Later she will visit friends in Pittsfield, Mass., and will be gone one month.

Mr. and Mrs. Henley Sweeney, Jr., left Thursday for Staunton, where they will spend a couple of weeks with friends and relatives.

Mrs. Mary Bowry has been the guest of friends in Charlottesville this week.

Miss Rosella Hough has gone to Richmond, where she will remain some time. L. F. Barnes, of Richmond, was in Williamsburg Monday and spent the day with brother, A. J. Barnes.

Mrs. W. J. Young and son, Faulkner, of Hampton, spent the week here with the former's daughter, Mrs. Spencer Lane.

Misses Ocie and Rebecca Jones and Miss Minnie Davis spent several days this week at White Sulphur Springs.

Mrs. L. M. Lewis has been the guest of friends this week in Norfolk and Suffolk. B. F. Wolfe returned yesterday from a stay at Staunton, where he was visiting friends.

Mrs. F. S. Holdcroft and Miss Ida Holdcroft, of Richmond, are spending some time with friends in Charlottesville.

Mr. and Mrs. Walker Maddox, of New York City, were guests this week of Mrs. E. M. Brooks.

Farmville Social News.

[Special to The Times-Dispatch.]
Farmville, Va., August 19.—Mrs. W. H. Flournoy came to Farmville from Amelia, and will remain with friends here before going to Mecklenburg to be with her brother, Judge Wood.

Guards Frieborn, a former United States government architect, who has visited his brother-in-law, George M. Sarpell, W. H. Trevillian, of Gloucester county, has returned home from his visit to R. C. Bristow.

Miss Nellie Reed, of Blackstone, has returned home after a short visit to Mrs. D. T. Bristow.

Miss Clark, of Lynchburg, is visiting her aunt, Mrs. Walter H. Richardson.

Stover Bristow, of Richmond, is visiting his uncle, R. C. Bristow.

Miss Alberta Pools has gone to Arvonia to spend some time with her friends in that village.

John F. Walton has gone to the mountain to enjoy a month from the exacting duties of his business.

Mrs. George Bright, of Richmond, and Mrs. Timberlake, of the same city, have been recent guests in the home of T. N. Wilton.

Mrs. Frank S. Woodson and daughter, of Richmond, are visiting in the home of F. W. Hubbard on High Street.

Mrs. William R. Easley and the baby have gone to Baltimore for a visit to the old home of Mrs. Berkeley.

Mrs. W. H. Vaiden has been visiting in the home of V. Vaiden, has gone to Norfolk.

Miss Bessie Lindsay, of Richmond, is visiting her brother, Henry Lindsay, of Farmville.

L. L. and Mrs. Martin have returned from a trip to Newport News and the seashore.

Miss Nannie P. Amos left Monday for a visit to her sister, who resides in Roanoke.

Mrs. Jeffrey Crayke, of Washington, has gone to Amelia to spend a portion of the vacation there.

Robert W. Booker, who recently came to Farmville from a year's stay at Saratoga Lake, N. Y., left on Thursday for Catawba.

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